

CIRIANA ORABONA, PhD
Curriculum Vitae
(updated to January 15, 2021)

Date and place of birth 21/01/1972, Santa Maria Capua Vetere (CE), Italy
Address Via Silvestro Valeri, 12 – 06129 Perugia (PG) Italy
Nationality Italian
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Position University Researcher (05/G1-BIO14)

A. EDUCATION AND TRAINING

2003 PhD in Experimental Medicine, Department of Experimental Medicine and Biochemical Sciences, University of Perugia, Perugia.
1997 Professional license in Pharmacist, State of Italy.
1997 Degree in Drug Chemistry and Technology, University of Perugia, final mark 110/110 cum laude.
1995-1997 Undergraduate internship at the Department of Experimental Medicine and Biochemical Sciences, University of Perugia, Perugia.

Language knowledge: English, French.

B. PROFESSIONAL EMPLOYMENT AND POST-LAUREAM RESEARCH EXPERIENCE

2021 Approved qualification for associate professor in Pharmacology
2005-present University Researcher (Department of Medicine and Surgery, University of Perugia, Italy)
2002-2004 Research Fellow (Department of Experimental Medicine, University of Perugia, Italy)
2000-2002 PhD Fellow (Department of Experimental Medicine, University of Perugia, Italy)
1998-2000 PhD Fellow (Ludwig Institute for Cancer Research-Brussels, Belgium)

C. INSTITUTIONAL RESPONSIBILITIES

2017-present Member of the Quality Assurance Committee of the Master Degree in Pharmaceutical Chemistry and Technology, University of Perugia, Italy
2017-present Member of the Committee of Coordination of the Master Degree in Pharmaceutical Chemistry and Technology, University of Perugia, Italy
2016-2019 Member and Secretary of the Bioethics Committee of the University of Perugia (2nd mandate)
2012-2015 Member and Secretary of the Bioethics Committee of the University of Perugia (1st mandate)
2010-11 Member of the Committee 'Area 05 Biological Sciences' University of Perugia, Italy

D. TEACHING ACTIVITY

- 2018-2019 Professor of '*Principles of pre-clinical research*' ADVANCED COURSE IN PRE-CLINICAL AND CLINICAL RESEARCH (Coordinator: Prof.ssa Susanna Esposito) – University of Perugia, Italy
- 2013-present Teacher member of the PhD course in 'Systems Biology in Immunity and Infectious Pathologies' (University of Perugia, Italy)
- 2010-2012 Professor of 'Pain Therapy' School of Specialization in Hospital Pharmacy – (Coordinator: Prof. Maurizio Ricci) – University of Perugia, Italy
- 2010-present Professor of 'Experimental Pharmacology' (students of Pharmaceutical Chemistry and Technology) - University of Perugia, Italy
- 2006-2012 Teacher member of the PhD course in Experimental Biology and Medicine (University of Perugia, Italy)
- 2005-2010 Professor of 'Pharmacological Biotechnology' (students of Biotechnology) – University of Perugia, Italy
- 2002 Professor of '*Molecular Pharmacology and Polymerase Chain Reaction*' European Doctorate in Chemistry and Technology of Drugs - University of Perugia, Italy.

E. HONOURS, AWARDS, PATENTS

- 2017 National Patent in the field of applied medicine '*Polimeri a stampo molecolare specifici per L-chinurenina, procedimento per la loro preparazione e procedimento per l'estrazione di L-chinurenina da fluidi biologici*' Date of deposit: 10.05.2017 Number of deposit: 102017000050592. Inventors: Ciriana Orabona, Lucia Mergola, Roberta del Sole, Giuseppe Vasapollo.
- 2017-2023 Eligibility as Associate Professor in the academic discipline 06A2 (National Program of Qualification for Associate Professorships)
- 2017-2023 Eligibility as Associate Professor in the academic discipline 05G1 (National Program of Qualification for Associate Professorships)
- 2014-2020 Eligibility as Associate Professor in the academic discipline 05F1 (National Program of Qualification for Associate Professorships)
- 2005 Winner of a Research Award from the Farindustria & Italian Society of Pharmacology (SIF) for the best pharmacologic research article (*Nat Immunol*, 5(11):1134-42, 2004)
- 2002 'Porcellati' award for the best PhD thesis;
- 1998 Travel Grant - European Science Foundation (ESF);
- 1998 Research Fellow, Italian Society of Pharmacology (SIF);

F. GRANTS AS PRINCIPAL INVESTIGATOR

- 2019-present '*Deciphering the molecular and functional heterogeneity of myeloid cells in cancer.*' Agency: Italian Ministry of Education, University and Research, MIUR (PRIN2017 Prot. 2017BA9LM5, 36 months, PI of the research unit)
- 2018-2019 "Umbria A.R.C.O." Scientific and Technological research for the competitiveness of the region Umbria. PO.FSE Umbria 2014-2020 – ASSE 3 –CUP I91G18000250009
- 2017 Individual annual grant for basic research activity. Agency: Italian Ministry of Education, University and Research (MIUR)
- 2015-2017 '*Innovative approach in the therapy of obesity through IDO1 enzyme: a physiological enzyme with anti-inflammatory activity*'. Agency: Fondazione della Cassa di Risparmio di Perugia (a bank foundation; Italy, 2-yrs project)
- 2014-2017 '*Integrated approaches to investigate IDO conformations for immune disorders*' Agency: Italian Ministry of Education, University and Research, MIUR (PRIN2012 Prot.2012S47X27, 36 months, Coordinator)

- 2011-2014 ‘*Innovative IDO-targeting interventions in autoimmunity*’ Agency: Italian Ministry of Health (GR-2008-1138004, 36 months, Ricerca Finalizzata – bando giovani ricercatori)
- 2001-2002 ‘*B7/CTLA-4 REVERSE SIGNALING*’ Agency: Italian Ministry of Education, University and Research, MIUR (1-yr project for young researcher)

G. GRANTS AS ASSOCIATED INVESTIGATOR

- 2018-2019 “DIDO-MS” Commercialization of a first in class multiple sclerosis drug. Agency: European Research Council (ERC-2017-PoC ID: 780807, PI Ursula Grohmann, 18 months)
- 2014-2019 “DIDO” Innovative drugs targeting IDO molecular dynamics in autoimmunity and neoplasia. Agency: European Research Council/7th Framework Programme (Advanced Grant ERC 2013; PI: Ursula Grohmann, 60 months)
- 2011-2014 Revisiting tolerance induction to beta cells in a novel preclinical model. Agency: Juvenile Diabetes Research Foundation International (Research Grant, PI: Lucienne Chatenoud, 36 months)
- 2011-2013 Expression and function of metabotropic glutamate receptors in the immune synapse. Agency: Italian Ministry of Education, University, and Research, MIUR (PRIN project, PI: Nicoletti Ferdinando, 24 months)
- 2008-10 Modulation of Tryptophan catabolism in autoimmunity. Agency: Italian Ministry of Education, University, and Research (PRIN project, PI: Francesca Fallarino, 24 months)

H. SCIENTIFIC SOCIETIES

- Member of the ‘European Association for the Study of Diabetes (EFSD)’
- Member of the ‘Italian Society of Neurosciences (SINS)’
- Member of the ‘Italian Society of Pharmacology (SIF)’

I. EDITORIAL BOARD ACTIVITY

- Guest Editor of Special Issue “Decoding the Complex Crossroad of Tryptophan Metabolic Pathways” International Journal of Molecular Sciences (IF 4.556)

J. REVIEWER ACTIVITY

- Member of the Register of Expert Peer Reviewers for Italian Scientific Evaluation (REPRISE)
- Reviewer for the “French National Research Agency” (France)
- Reviewer for CINECA projects (Italy)

Ad hoc reviewer for:

Immunotherapy; International Immunopharmacology; Journal Cell Physiology; Mediator of inflammation; Amino Acids; Oncoimmunology; The Journal of Immunology; Expert Review in Clinical Immunology; European Journal of Immunology; Gene; Toxicological & Environmental Chemistry; FASEB; Expert Opinion on Therapeutic Targets; Enzyme Research; International Immunology; Molecular Pharmacology; Journal Pharmacology and Experimental Therapeutics; Frontiers in Pharmacology; Frontiers in Immunology; Frontiers in Physiology; PLOS One, Theranostics, Expert Opinion Drug Discovery, International Journal of Tryptophan

L. ORAL PRESENTATIONS AT INTERNATIONAL AND NATIONAL CONGRESSES (Selected)

- 2019 ‘*Identification of a 2-propanol analogue modulating the non-enzymatic function of indoleamine 2,3 dioxygenase 1*’ National Congress of Italian Pharmacology Society (SIF), Firenze, Italy.
- 2018 ‘*Dal laboratorio al letto del paziente: i gruppi di ricerca dell’Università di Perugia*’

- Roadshow INCiPit (Italian Network for Paediatric Clinical Trials) Scuola Interdipartimentale di Medicina e Chirurgia, Perugia, Italy
- 2017 *Reinstalling immune regulatory tryptophan catabolism in juvenile diabetes via tocilizumab, a licensed interleukin-6 receptor blockade*. National Congress of Italian Pharmacology Society (SIF), Rimini, Italy
- 2017 *Targeting IDO1 enzyme for the control of neuroinflammation in multiple sclerosis*. National Congress of Italian Neuroscience Society (SINS), Ischia, Italy
- 2017 *‘Verso una cura definitiva del diabete giovanile: input dalla ricerca di base perugina’* Associazione Giovani Diabetici UMBRIA – Italy
- 2016 *Reinstalling immune regulatory tryptophan catabolism in juvenile diabetes via interleukin 6 receptor blockade* – EUSTM (European Society of Translational Medicine) Prague, Czech Republic
- 2016 *IDO1-targeting intervention by proteasome inhibition in autoimmune diabetes* – AAI (American Association of Immunologists) 2016, Seattle, USA
- 2015 *Indoleamine 2,3 dioxygenase: Interdisciplinary Drug Overview* – Perugia, Italy
- 2014 *Obesity a multifactorial disease* – Italian Society of Obesity (SIO) meeting, Italy
- 2014 *Drug Repurposing and Beyond: The fundamental role of Pharmacology* – SIF (Italian Society of Pharmacology) workshop, Cosenza, Italy
- 2013 *Proteasome Inhibition in pDCs confers an IDO- dependent immunoregulatory phenotype*. 4th international workshop on plasmacytoid dendritic cells (CFCD), Paris

M. SUMMARY OF SCIENTIFIC ACHIEVEMENTS

Scientific peer-reviewed full papers **73**

Book chapters **4**

H index **34** (*Scopus*)

Total Citations **7708** (*Scopus*)

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Research interests: Immunopharmacology; Immunotherapy; Tryptophan metabolism in the regulation of the immune response in autoimmune, neoplastic and inflammatory chronic diseases.

Keywords: Tryptophan metabolism, Immunomodulation, Dendritic cells, Immunometabolism, Inflammation.

Full papers

1. *Grohmann U, Silla S, Belladonna ML, Bianchi R, Orabona C, Puccetti P, Fioretti MC* Circulating levels of IL-10 are critically related to growth and rejection patterns of murine mastocytoma cells. *Cell Immunol*, 181 (2), 109-119, 1997. [IF=3.291]
2. *Grohmann U, Belladonna ML, Bianchi R, Orabona C, Ayroldi E, Fioretti MC, Puccetti P* Interleukin (IL) 12 acts directly on dendritic cells (DC) to promote nuclear localization of NF-kB and primes DC for IL-12 production. *Immunity*, 9, 315-323, 1998. [IF=21.522]
3. *Grohmann U, Belladonna ML, Bianchi R, Orabona C, Silla S, Squillacioti G, Fioretti MC, Puccetti P* Immunogenicity of tumor peptides: importance of peptide length and stability of peptide/MHC class II complex. *Cancer Immunol Immunother*, 48, 195-203, 1999. [IF=4.900]
4. *Grohmann U, Orabona C, Bianchi R, Belladonna ML, Fioretti MC, Puccetti P* IL-12 induces SDS-stable class II ab dimers in murine dendritic cells. *Cytokine*, 12, 401-404, 2000. [IF=3.078]
5. *Orabona C, Dumoutier L, Renaud JC* IL-9 induces 24P3 lipocalin gene expression in murine T cell lymphomas. *Eur. Cytokine Netw*. 2001 March vol. 12 n°1 [IF = 4.695]
6. *Grohmann U, Belladonna ML, Vacca C, Bianchi R, Fallarino F, Orabona C, Fioretti MC, and Puccetti P* Positive regulatory role of IL-12 in macrophages and modulation by IFN- γ . *J Immunol*, 167, 221-227, 2001. [IF=4.718]
7. *Grohmann U., Fallarino F., Bianchi R., Belladonna M.L., Vacca C., Orabona C., Uyttenhove C., Fioretti M.C., and Puccetti P.* IL-6 inhibits the tolerogenic function of CD8 α^+ dendritic cells expressing indoleamine 2,3-dioxygenase. *J Immunol*, 167, 708-714, 2001. [IF=4.718]

8. Fallarino F., Vacca C., **Orabona C.**, Belladonna M.L., Bianchi R., Marshall M., Keskin D.B., Mellor A.L., Fioretti M.C., Grohmann U. and Puccetti P. Functional Expression of indoleamine 2,3-dioxygenase by murine CD8 α ⁺ dendritic cells. *Int Immunol*, 14(1):65-8, 2002. [IF=4.168]
9. Belladonna M.L., Renauld J.C., Bianchi R., Vacca C., Fallarino F., **Orabona C.**, Fioretti M.C., Grohmann U. and Puccetti P. IL-23 and IL-12 have overlapping, but distinct, effects on murine dendritic cells. *J Immunol*, 168(11):5448-54, 2002. [IF=4.718]
10. Fallarino F., Grohmann U., Vacca C., Bianchi R., **Orabona C.**, Spreca A., Fioretti M.C., Puccetti P. T cell apoptosis by tryptophan catabolism. *Cell Death Differ.* 2002 Oct; 9(10):1069-77 [IF = 8.086]
11. Grohmann U., **Orabona C.**, Fallarino F., Vacca C., Calcinario F., Falorni A., Candeloro P., Belladonna M.L., Bianchi R., Fioretti M.C., and Puccetti P. CTLA-4Ig regulates tryptophan catabolism in vivo. *Nat Immunol*, 3(11):1097-101, 2002. [IF=20.479]
12. Grohmann U., Fallarino F., Bianchi R., **Orabona C.**, Vacca C, Fioretti M.C., and Puccetti P. A Defect in Tryptophan Catabolism Impairs Tolerance in Nonobese Diabetic Mice. *J. Exp. Med.* 2003 Jul 7; 198(1):153-60 [IF = 10.982]
13. Grohmann U., Bianchi R., **Orabona C.**, Fallarino F., Vacca C., Micheletti A., Fioretti MC, and Puccetti P. Functional plasticity of dendritic cell subsets as mediated by CD40 versus B7 activation. *J Immunol.* 171(5):2581-7, 2003. [IF=4.718]
14. Fallarino F., Grohmann U., Hwang K.W., **Orabona C.**, Vacca C., Bianchi R., Belladonna M.L., Fioretti M.L., Alegre M.L., and Puccetti P. Modulation of tryptophan catabolism by regulatory T cells. *Nat Immunol*, 4(12):1206-12, 2003. [IF=20.479]
15. **Orabona C.**, Grohmann U, Belladonna ML, Fallarino F, Vacca C, Bianchi R, Bozza S, Volpi C, Salomon BL, Fioretti MC, Romani L, Puccetti P. CD28 induces immunostimulatory signals in dendritic cells via CD80 and CD86. *Nat Immunol*, 5(11):1134-42, 2004. [IF=20.479]
16. Fallarino F, Bianchi R, **Orabona C.**, Vacca C, Belladonna ML, Fioretti MC, Serreze DV, Grohmann U, Puccetti P. CTLA-4-Ig activates forkhead transcription factors and protects dendritic cells from oxidative stress in nonobese diabetic mice. *J Exp Med*, 200(8):1051-62, 2004. [IF=10.892]
17. **Orabona C.**, Belladonna ML, Vacca C, Bianchi R, Fallarino F, Volpi C, Gizzi S, Fioretti MC, Grohmann U, Puccetti P. Cutting edge: silencing suppressor of cytokine signaling 3 expression in dendritic cells turns CD28-Ig from immune adjuvant to suppressant. *J Immunol*, 174(11):6582-6, 2005. [IF=4.718]
18. Vacca C, Fallarino F, Perruccio K, **Orabona C.**, Bianchi R, Gizzi S, Velardi A, Fioretti MC, Puccetti P, Grohmann U. CD40 ligation prevents onset of tolerogenic properties in human dendritic cells treated with CTLA-4-Ig. *Microbes Infect.* 2005 Jun;7(7-8):1040-8. [IF=2.669]
19. Fallarino F, **Orabona C.**, Vacca C, Bianchi R, Gizzi S, Asselin-Paturel C, Fioretti MC, Trinchieri G, Grohmann U, Puccetti P. Ligand and cytokine dependence of the immunosuppressive pathway of tryptophan catabolism in plasmacytoid dendritic cells. *Int Immunol.* 2005 Nov;17(11):1429-38. [IF=4.168]
20. **Orabona C.**, Tomasello E, Fallarino F, Bianchi R, Volpi C, Bellocchio S, Romani L, Fioretti MC, Vivier E, Puccetti P, Grohmann U. Enhanced tryptophan catabolism in the absence of the molecular adapter DAP12. *Eur J Immunol.* 2005 Nov;35(11):3111-8. [IF=4.718]
21. **Orabona C.**, Puccetti P, Vacca C, Biccato S, Luchini A, Fallarino F, Bianchi R, Velardi E, Perruccio K, Velardi A, Bronte V, Fioretti MC, Grohmann U. Toward the identification of a tolerogenic signature in IDO-competent dendritic cells. *Blood.* 2006 Apr 1;107(7):2846-54. [IF=17.543]
22. Fallarino F, Grohmann U, You S, McGrath BC, Cavener DR, Vacca C, **Orabona C.**, Bianchi R, Belladonna ML, Volpi C, Santamaria P, Fioretti MC, Puccetti P. The combined effects of tryptophan starvation and tryptophan catabolites down-regulate T cell receptor zeta-chain and induce a regulatory phenotype in naive T cells. *J Immunol*, 176(11):6752-61, 2006. [IF=4.718]
23. Fallarino F, Grohmann U, You S, McGrath BC, Cavener DR, Vacca C, **Orabona C.**, Bianchi R, Belladonna ML, Volpi C, Fioretti MC, Puccetti P. Tryptophan catabolism generates autoimmune-preventive regulatory T cells. *Transpl Immunol*, 17(1):58-60, 2006. [IF=1.624]
24. Steenwinckel V, Louahed J, **Orabona C.**, Huaux F, Warnier G, McKenzie A, Lison D, Levitt R, Renauld J.C. IL-13 mediates in vivo IL-9 activities on lung epithelial cells but not on hematopoietic cells. *J Immunol.* 2007 Mar 1;178(5):3244-51. [IF=4.718]
25. Grohmann U, Volpi C, Fallarino F, Bozza S, Bianchi R, Vacca C, **Orabona C.**, Belladonna ML, Ayroldi E, Nocentini G, Boon L, Bistoni F, Fioretti MC, Romani L, Riccardi C, Puccetti P. Reverse signaling through GITR ligand enables dexamethasone to activate IDO in allergy. *Nat Med*, 13(5):579-86, 2007. [IF=36.130]
26. Belladonna ML, Puccetti P, **Orabona C.**, Fallarino F, Vacca C, Volpi C, Gizzi S, Pallotta MT, Fioretti MC, Grohmann U. Immunosuppression via tryptophan catabolism: the role of kynurenine pathway enzymes. *Transplantation*, 84(1 Suppl):S17-20, 2007. [IF=4.593]
27. Belladonna ML, Volpi C, Bianchi R, Vacca C, **Orabona C.**, Pallotta MT, Boon L, Gizzi S, Fioretti MC, Grohmann U, Puccetti P. Cutting edge: Autocrine TGF-beta sustains default tolerogenesis by IDO-competent dendritic cells. *J Immunol.* 2008 Oct 15;181(8):5194-8. [IF=4.718]

28. **Orabona C, Pallotta MT, Volpi C, Fallarino F, Vacca C, Bianchi R, Belladonna ML, Fioretti MC, Grohmann U, Puccetti P.** SOCS3 drives proteasomal degradation of indoleamine 2,3-dioxygenase (IDO) and antagonizes IDO-dependent tolerogenesis. *Proc Natl Acad Sci U S A.* 2008 Dec 30;105(52):20828-33. [IF=9.412]
29. **Belladonna ML, Orabona C, Grohmann U, Puccetti P.** TGF-beta and kynurenines as the key to infectious tolerance. *Trends Mol Med.* 2009 Feb;15(2):41-9 [IF=11.028]
30. **Pallotta MT, Orabona C, Volpi C, Grohmann U, Puccetti P, Fallarino F** Proteasomal Degradation of Indoleamine 2,3-Dioxygenase in CD8 Dendritic Cells is Mediated by Suppressor of Cytokine Signaling 3 (SOCS3). *Int J Tryptophan Res* 2010 Jun; 3:91-97 [IF=5.470]
31. **Dumoutier L, de Heusch M, Orabona C, Satoh-Takayama N, Eberl G, Sirard JC, Di Santo JP, Renauld JC** IL-22 is produced by γ C-independent CD25+ CCR6+ innate murine spleen cells upon inflammatory stimuli and contributes to LPS-induced lethality. *Eur J Immunol.* 2011 Apr; 41(4):1075-85. [IF=4.695]
32. **Orabona C, Grohmann U.** Indoleamine 2, 3-dioxygenase and regulatory function: tryptophan starvation and beyond. In: *Suppression and Regulation of Immune Responses. Methods in Molecular Biology book series* (Clifton, N.J.) 2011; 677:269-280.
33. **Pallotta MT, Orabona C, Volpi C, Vacca C, Belladonna ML, Bianchi R, Servillo G, Brunacci C, Calvitti M, Biccato S, Mazza EM, Boon L, Grassi F, Fioretti MC, Fallarino F, Puccetti P, Grohmann U.** Indoleamine 2,3-dioxygenase is a signaling protein in long-term tolerance by dendritic cells. *Nat Immunol.* 2011 Jul 31; 2(9):870-8. [IF=20.479]
34. **Orabona C, Pallotta MT, Grohmann U.** Different partners, opposite outcomes: a new perspective of the immunobiology of indoleamine 2,3-dioxygenase. *Mol Med* 2012 Jul 18; 18:834-42. Review. [IF=2.991]
35. **Volpi C, Fallarino F, Bianchi R, Orabona C, De Luca A, Vacca C, Romani L, Gran B, Grohmann U, Puccetti P, Belladonna ML.** A GpC-rich oligonucleotide acts on plasmacytoid dendritic cells to promote immune suppression. *J Immunol.* 2012 Sep 1;189(5):2283-9. [IF=4.718]
36. **Larghi P, Porta C, Riboldi E, Totaro MG, Carraro L, Orabona C, Sica A.** The p50 Subunit of NF-kappaB Orchestrates Dendritic Cell Lifespan and Activation of Adaptive Immunity. *PLoS One.* 2012; 7(9):e45279. [IF=2.776]
37. **Volpi C, Fallarino F, Pallotta MT, Bianchi R, Vacca C, Belladonna ML, Orabona C, De Luca A, Boon L, Romani L, Grohmann U, Puccetti P.** High doses of CpG oligodeoxynucleotides stimulate a tolerogenic TLR9-TRIF pathway. *Nat Commun.* 2013;4:1852. [IF=11.879]
38. **Moretti S, Menicali E, Voce P, Morelli S, Cantarelli S, Sponziello M, Colella R, Fallarino F, Orabona C, Alunno A, de Biase D, Bini V, Mameli MG, Filetti S, Gerli R, Macchiarulo A, Melillo RM, Tallini G, Santoro M, Puccetti P, Avenia N, Puxeddu E.** Indoleamine 2,3-dioxygenase 1 (IDO1) is up-regulated in thyroid carcinoma and drives the development of an immunosuppressant tumor microenvironment. *J Clin Endocrinol Metab.* 2014 May;99(5):E832-40. [IF=5.650]
39. **Bessede A, Gargaro M, Pallotta MT, Matino D, Servillo G, Brunacci C, Biccato S, Mazza EM, Macchiarulo A, Vacca C, Iannitti R, Tissi L, Volpi C, Belladonna ML, Orabona C, Bianchi R, Lanz TV, Platten M, Della Fazio MA, Piobbico D, Zelante T, Funakoshi H, Nakamura T, Gilot D, Denison MS, Guillemin GJ, DuHadaway JB, Prendergast GC, Metz R, Geffard M, Boon L, Pirro M, Iorio A, Veyret B, Romani L, Grohmann U, Fallarino F, Puccetti P.** Aryl hydrocarbon receptor control of a disease tolerance defence pathway. *Nature.* 2014 Jul 10; 511(7508):184-90. [IF= 24.360]
40. **Pallotta MT, Orabona C, Bianchi R, Vacca C, Fallarino F, Belladonna ML, Volpi C, Mondanelli G, Gargaro M, Allegrucci M, Talesa VN, Puccetti P, Grohmann U.** Forced IDO1 expression in dendritic cells restores immunoregulatory signalling in autoimmune diabetes. *J Cell Mol Med.* 2014 Oct;18(10):2082-91. [IF=4.658]
41. **Fallarino F, Pallotta MT, Matino D, Gargaro M, Orabona C, Vacca C, Mondanelli G, Allegrucci M, Boon L, Romani R, Talesa VN, Puccetti P, Grohmann U.** LPS-conditioned dendritic cells confer endotoxin tolerance contingent on tryptophan catabolism. *Immunobiology.* 2015 Feb;220(2):315-21. doi: 10.1016/j.imbio.2014.09.017. Epub 2014 Sep 28. [IF=2.788]
42. **Pallotta MT, Fallarino F, Matino D, Macchiarulo A, Orabona C.** AhR-Mediated, Non-Genomic Modulation of IDO1 Function. *Front Immunol.* 2014 Oct 15;5:497. doi: 10.3389/fimmu.2014.00497. eCollection 2014. Review. [IF=5.085]
43. **Put K, Avau A, Brisse E, Mitera T, Put S, Proost P, Bader-Meunier B, Westhovens R, Van den Eynde BJ, Orabona C, Fallarino F, De Somer L, Tousseyn T, Quartier P, Wouters C, Matthys P.** Cytokines in systemic juvenile idiopathic arthritis and haemophagocytic lymphohistiocytosis: tipping the balance between interleukin-18 and interferon- γ . *Rheumatology (Oxford).* 2015 Aug; 54(8):1507-17. doi: 10.1093/rheumatology/keu524. Epub 2015 Mar 12. [IF=5.606]
44. **Romani R, Pirisinu I, Calvitti M, Pallotta MT, Gargaro M, Bistoni G, Vacca C, Di Michele A, Orabona C, Rosati J, Pirro M, Giovagnoli S, Matino D, Prontera P, Rosi G, Grohmann U, Talesa VN, Donti E, Puccetti P, Fallarino F.** Stem cells from human amniotic fluid exert immunoregulatory function via secreted indoleamine 2,3-dioxygenase1. *J Cell Mol Med.* 2015 Jul;19(7):1593-605. doi: 10.1111/jcmm.12534. Epub 2015 Mar 17. [IF=4.658]

45. Holtzhausen A, Zhao F, Evans KS, Tsutsui M, **Orabona C**, Tyler DS, Hanks BA. Melanoma-Derived Wnt5a Promotes Local Dendritic-Cell Expression of IDO and Immunotolerance: Opportunities for Pharmacologic Enhancement of Immunotherapy. *Cancer Immunol Res.* 2015 Sep;3(9):1082-95. doi: 10.1158/2326-6066.CIR-14-0167. Epub 2015 Jun 3. [IF=4.598]
46. Martino D, Gargaro M, Santagostino E, Di Minno MN, Castaman G, Morfini M, Rocino A, Mancuso ME, Di Minno G, Coppola A, Talesa VN, Volpi C, Vacca C, **Orabona C**, Iannitti R, Mazzucconi MG, Santoro C, Tosti A, Chiappalupi S, Sorci G, Tagariello G, Belvini D, Radossi P, Landolfi R, Fuchs D, Boon L, Pirro M, Marchesini E, Grohmann U, Puccetti P, Iorio A, Fallarino F. IDO1 suppresses inhibitor development in hemophilia A treated with factor VIII. *J Clin Invest.* 2015 Oct 1;125(10):3766-81. doi: 10.1172/JCI181859. Epub 2015 Aug 31. [IF=11.864]
47. Volpi C, Mondanelli G, Pallotta MT, Vacca C, Iacono A, Gargaro M, Albini E, Bianchi R, Belladonna ML, Celanire S, Mordant C, Heroux M, Royer-Urios I, Schneider M, Vitte PA, Cacquevel M, Galibert L, Poli SM, Solari A, Bicciato S, Calvitti M, Antognelli C, Puccetti P, **Orabona C**, Fallarino F, Grohmann U. Allosteric modulation of metabotropic glutamate receptor 4 activates IDO1-dependent, immunoregulatory signaling in dendritic cells. *Neuropharmacology.* 2016 Mar;102:59-71. doi: 10.1016/j.neuropharm.2015.10.036. [IF=4.430]
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Perugia, 18 gennaio 2021

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